



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/911,375	07/25/2001	Hideyuki Furukawa	100353-00069	3493

4372 7590 02/07/2005

ARENT FOX KINTNER PLOTKIN & KAHN  
1050 CONNECTICUT AVENUE, N.W.  
SUITE 400  
WASHINGTON, DC 20036

EXAMINER

ABRAHAM, ESAW T

ART UNIT	PAPER NUMBER
----------	--------------

2133

DATE MAILED: 02/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/911,375

Applicant(s)

FURUKAWA, HIDEYUKI

Examiner

Esaw T Abraham

Art Unit

2133

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 September 2004.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☒ Claim(s) 7-9 is/are allowed.  
6) ☒ Claim(s) 1 is/are rejected.  
7) ☒ Claim(s) 2 and 3 is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 25 July 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**Final office action**

**Response to the applicant's amendments**

- \* This office action is in response to Applicants' amendment filed on 09/23/04.
- \* Applicants argument with respect to claims 1-3 filed on 01/28/05 have been fully considered but they are not persuasive. Therefore, the examiner would like to point out that this action is made final.

**Response to the applicant's arguments**

In response to the applicants' argument that the references fail to show certain features of applicants' invention, it is noted that the features upon which applicant relies (Note: "**an ECC code known to cause an ECC error**") are not recited in the rejected claim(s). Although, the claims interpreted in light of the specification, limitations from the specification are not read to the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Note: claims 1-3 recites, "writing an ECC code **known to cause an ECC error**" and does not state "writing an ECC code causing an ECC error ". Furthermore, the quoted limitation "an ECC code known to cause an ECC error" is not described in the specification.

1. Claims 1-3 are remain pending and claim 4 is cancelled.

***Claim Rejections - 35 USC § 112, 1<sup>st</sup> paragraph***

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1-3 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contain subject matter, which was not described in the specification

in such a way as to reasonably convey to one skilled in the art that the inventor(s), at the time application was filed, had possession of the claimed invention.

Nowhere in the specification does the applicant teach or define, “**an ECC code known to cause an ECC error**” (in claims 1-3). Hence the Applicant has introduced New Matter, which was not described in the specification in such a way as to application was filed, had possession of the claimed invention.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U. S. C 112

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

3. Claims 1-3 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1-3 recite, “an ECC code **known to cause** an ECC error”. It is unclear and incomprehensible what is **known to cause** an ECC error refers to.

The examiner would like to point out that because of the severe 35 U.S.C 112 issues within the claims 1-3 it is not clear what the claim language is referring to.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject

Art Unit: 2133

matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. Claim 1 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kishino (U.S. PN: 6,526,537).

As per claim 1, Kishino a storage capable of generating an ECC for data and adding the ECC to the data to thereby form a read/write unit includes a writing circuit for generating an ECC for N of write data received from a host, adding N equally divided ECC code parts to the N write data, respectively, to thereby form N write units, and writing the N write units to N continuous addresses of a semiconductor memory device, respectively. A reading circuit gathers the N equally divided ECC code parts contained in read data units read out of the N continuous addresses of the semiconductor memory device to thereby reconstruct the ECC, and corrects errors of the N read data units with the reconstructed ECC (see col. lines 3-16). Kishino further in figure 2 teaches an error detection (5) gathers the Nequally divided ECC parts present in the data output from the read data registers 201-20n to thereby reconstruct a single ECC and further the error detection detects error bits out of the Nread data by using the reconstructed ECC and holds error bit information for a pre-selected period of time (see col. 4, lines 6-13). Furthermore,

Art Unit: 2133

Kishino teaches that storing accurate data in a semiconductor memory device, it is a common practice to use an ECC system adding a preselected number of check bits necessary for an ECC to data bits, writing them in the memory device together, and detecting or correcting, based on the data bits and check bits, errors with an error detecting circuit at the time of data reading (see col. 1, lines 20-28). Kishino **does not explicitly teach** the exact terms such as “marking or identifying” a defect (an error) in a specific memory area or block. **However**, such terms “identifying or marking” errors are known in the art to mean as detecting errors in a specific memory areas or blocks. **Therefore**, it would have been obvious at the time the invention was made to one of ordinary skill in the art to use such terms (marking or identifying errors) since detected errors are “error recognized, error marked or error identified” by a detection algorithm or mechanism. **This modification** would have been obvious because a person having ordinary skill in the art would have been motivated to do so because identifying or marking errors in a block are detecting faults and they are known terms in the art of memory detection systems.

***Allowable subject matter***

5. Claims **2 and 3** are objected to as being dependent upon a rejected base claim but would be allowable if rewritten independent including all of the limitation of the base claim, any intervening claims and if overcoming the 112 problems.

The claimed invention comprises a method step of writing an ECC code includes the steps of suspending an ECC generation function to said semiconductor device and writing the ECC code from an exterior of said semiconductor memory device (as in claim 2) which the prior art do not teach or render obvious.

Art Unit: 2133

The claimed invention comprises a method of reading data from the defective block after the writing of ECC code, performing an ECC check on the read data and rejecting the semiconductor memory device as being defective if an ECC error is not detected (as in claim 3) which the prior art do not teach or render obvious.

### ***Conclusion***

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

7. Any inquiry concerning this communication or earlier communication from the examiner should be directed to Esaw Abraham whose telephone number is (571) 272-3812. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are successful, the examiner's supervisor, Albert DeCady can be reached on (571) 272-3819. The fax phone numbers for the organization

Art Unit: 2133

where this application or proceeding is assigned are (703) 746-7239 for regular communications and (703) 746-7238 for after final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

*Esaw Abraham*

Esaw Abraham

Art unit: 2133

*Guy J. Lamarre*  
*Primary Examiner*